

C2
D5
7. (Twice Amended) A drive mechanism for a bicycle transmission assist mechanism comprising:
a crank arm having a rotational axis;
a drive member comprising an annular drive ring mounted around the rotational axis and including:
(a first abutment facing a forward rotational direction of the crank arm; and
a first sloped surface extending from a radially outer portion of the abutment and facing a rearward rotational direction of the crank arm;
wherein an inner peripheral surface of the drive ring includes a plurality of drive ring splines, and wherein an outer peripheral surface of the crank arm includes a plurality of crank arm splines that engage the plurality of drive ring splines; and
wherein the drive member is not used to couple sprockets to the crank arm.

C3
8. (Amended) The drive mechanism according to claim 1 wherein the drive member includes:
a second abutment facing the forward rotational direction of the crank arm; and
a second sloped surface facing the rearward rotational direction of the crank arm.

C4
24. (Twice Amended) A drive mechanism for a bicycle transmission assist mechanism comprising:
a crank arm having a rotational axis;
wherein the crank arm includes a sprocket mounting member for mounting a sprocket to the crank arm;
a large diameter sprocket retained to the sprocket mounting member;
a small diameter sprocket retained to the sprocket mounting member;
a drive member including:
an abutment facing a forward rotational direction of the crank arm; and
a sloped surface extending from a radially outer portion of the abutment and facing a rearward rotational direction of the crank arm;
wherein the large diameter sprocket includes a shift assist mechanism for assisting travel of a chain between the small diameter sprocket and the large diameter sprocket; and

C₁ 1d wherein the drive member is not used to couple either the large diameter sprocket or the small diameter sprocket to the crank arm.

C₃ 31. (Twice Amended) A drive mechanism for a bicycle transmission assist mechanism comprising:
a crank arm having a rotational axis;
a drive member including:
an abutment facing a forward rotational direction of the crank arm; and
a sloped surface extending from a radially outer portion of the abutment and facing a rearward rotational direction of the crank arm;
wherein the drive member is not used to couple sprockets to the crank arm;
wherein the crank arm has a crank axle mounting hole, and further comprising a plurality of splines disposed in the crank axle mounting hole.

C₆ 35. (Twice Amended) A drive mechanism for a bicycle transmission assist mechanism comprising:
a bicycle crank arm having a crank axle mounting boss including a crank axle mounting hole and a rotational axis;
only two abutments disposed on an outer surface of the crank axle mounting boss and facing a forward rotational direction of the crank arm;
wherein the two abutments rotate coaxially around the rotational axis; and
wherein the two abutments are not used to couple sprockets to the crank arm.

36. (Twice Amended) A drive mechanism for a bicycle transmission assist mechanism comprising:
a bicycle crank arm having a crank axle mounting boss including a crank axle mounting hole and a rotational axis;
a drive member disposed at the crank axle mounting boss and including:
an outer peripheral surface;
wherein an abutment is disposed on the outer peripheral surface and faces a forward rotational direction of the crank arm;

wherein the abutment rotates around the rotational axis at a substantially constant radius; and

wherein the outer peripheral surface at a location of intersection with a radially inner portion of the abutment extends convex for at least 20°; and

wherein the drive member is not used to couple sprockets to the crank arm.

38. (Amended) A drive mechanism for a bicycle transmission assist mechanism comprising:

a crank arm having a rotational axis;

a drive member nonrotatably fixed to the crank arm including:

an abutment facing a forward rotational direction of the crank arm;

wherein the abutment rotates around the rotational axis at a substantially constant radius; and

a sloped surface extending from a radially outer portion of the abutment and facing a rearward rotational direction of the crank arm; and

wherein the drive member is not used to couple sprockets to the crank arm.

Please cancel claim 40.

Please add the following new claims:

41. (New) The drive mechanism according to claim 1 wherein the first abutment has a free space in front of it sufficient so that the abutment can engage a coupling member of the assist mechanism.

42. (New) The drive mechanism according to claim 7 wherein the first abutment has a free space in front of it sufficient so that the abutment can engage a coupling member of the assist mechanism.

43. (New) The drive mechanism according to claim 24 wherein the abutment has a free space in front of it sufficient so that the abutment can engage a coupling member of the assist mechanism.

44. (New) The drive mechanism according to claim 31 wherein the abutment has a free space in front of it sufficient so that the abutment can engage a coupling member of the assist mechanism.

45. (New) The drive mechanism according to claim 35 wherein each abutment has a free space in front of it sufficient so that the abutment can engage a coupling member of the assist mechanism.

46. (New) The drive mechanism according to claim 38 wherein the abutment has a free space in front of it sufficient so that the abutment can engage a coupling member of the assist mechanism.

47. (New) A drive mechanism for a bicycle transmission assist mechanism comprising:
a crank arm having a crank axle mounting hole around a rotational axis;
a drive member nonrotatably fixed to the crank arm, wherein the drive member includes an abutment facing a forward rotational direction of the crank arm for engaging a coupling member of the assist mechanism;
wherein the abutment rotates around the rotational axis at a substantially constant radius; and
wherein the drive member is not used to couple sprockets to the crank arm.

48. (New) A drive mechanism for a bicycle transmission assist mechanism comprising:
a crank arm having a crank axle mounting hole around a rotational axis;
a sprocket mounting member retained to the crank arm;
a large diameter sprocket retained to the sprocket mounting member;
a small diameter sprocket retained to the sprocket mounting member;
a drive member nonrotatably retained to the crank arm, wherein the drive member includes an abutment facing a forward rotational direction of the crank arm for engaging a coupling member of the assist mechanism;
wherein the abutment rotates around the rotational axis at a substantially constant radius; and
wherein the abutment is visible when the drive member is viewed in a direction along the rotational axis laterally inwardly of the sprocket mounting member.

REMARKS

Claims 1-36 and 38-40 are pending. Claims 37 and 40 have been canceled. Claims 41-48 have been added.